

251/253 Series

PICO® II Very Fast-Acting Fuse



Description

The PICO® II Very Fast-Acting Fuse is designed to meet an extensive array of performance characteristics in a space-saving subminiature package.

Features and Benefits

- Very fast-acting
- Small size
- Wide current rating range (0.062A- 15A)
- Halogen-free available
- Wide operating temperature range
- Low temperature re-rating

Applications

Secondary protection for space constrained applications

- Flat-panel display TV
- LCD monitor
- LCD backlight inverter
- Office machines
- Power supply
- Audio/Video system
- Lighting system
- Medical equipment

Additional Information



Resources
251 Series



Accessories
251 Series



Samples
251 Series



Resources
253 Series



Accessories
253 Series



Samples
253 Series

Agency Approvals

| Agency | Agency File/Certificate Number | | Ampere Range |
|---------|--------------------------------|----------------------|----------------------------------|
| | 253 Series | 251 Series | |
| CE | N/A | N/A | 0.062A - 15A |
| UK CA | N/A | N/A | 0.062A - 15A |
| c UL us | N/A | E10480 | 0.062A - 15A |
| SP | N/A | 29862 | 0.062A - 15A |
| PSE | N/A | PSE_NBK200416-JP1021 | 1A - 5A |
| QPL | N/A | J50158379 | 0.500A - 10A |
| QPL | FM10 | N/A | 0.062A - 15A |
| CCC | N/A | 2020970207000061 | 0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A |

Note: See Electrical Specifications by Item table for specific approved ratings.

Electrical Characteristics for Series

| % of Ampere Rating | Ampere Rating | Opening Time |
|--------------------|---|------------------|
| 100% | 0.062A - 15A | 4 Hours, Min. |
| | 0.062A - 7A | 1 Second, Max. |
| 200% | 10A | 3 Seconds, Max. |
| | 12 - 15A | 10 Seconds, Max. |
| 275% | 0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A, 7A, 10A | 300 msecs., Max. |
| 400% | 0.5A, 1A, 2A, 2.5A, 3A, 4A, 5A, 7A, 10A | 30 msecs., Max. |
| 1000% | 0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A | 4 msecs., Max. |

251/253 Series

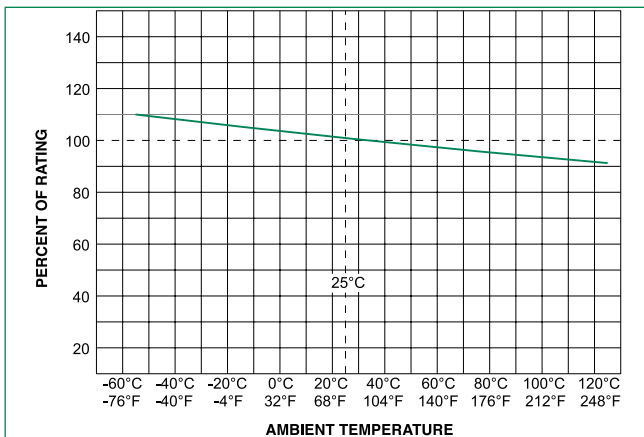
PICO® II Very Fast-Acting Fuse

Electrical Specifications by Item

| Ampere Rating (A) | Amp Code | Ordering Number (Std.) | Ordering Number (Mil.) | Max Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting P _t (A ² sec) | Nom Voltage Drop (V) | Agency Approvals | | | | | | | |
|-------------------|----------|------------------------|------------------------|------------------------|------------------------|--------------------------------|---|----------------------|------------------|--------|----|----|----|---|---------------------|-----|
| | | | | | | | | | UL US | UK CIP | CE | SP | PP | △ | QPL 253 Series Only | CCC |
| .062 | .062 | 251.062 | 253.062 | 125 | 300 A @ 125VDC | 7.000 | 0.000113 | 1.4 | x | x | x | x | - | - | x | - |
| .125 | .125 | 251.125 | 253.125 | 125 | | 1.700 | 0.00174 | 0.285 | x | x | x | x | - | - | x | - |
| .200 | .200 | 251.200 | 253.200 | 125 | | 0.895 | 0.0048 | 0.345 | x | x | x | x | - | - | - | - |
| .250 | .250 | 251.250 | 253.250 | 125 | | 0.665 | 0.0116 | 0.24 | x | x | x | x | - | - | x | - |
| .375 | .375 | 251.375 | 253.375 | 125 | | 0.395 | 0.0296 | 0.215 | x | x | x | x | - | - | x | - |
| .500 | .500 | 251.500 | 253.500 | 125 | | 0.302 | 0.0598 | 0.2165 | x | x | x | x | - | x | x | x |
| .630 | .630 | 251.630 | | 125 | | 0.205 | 0.08 | 0.188 | x | x | x | x | - | - | - | - |
| .750 | .750 | 251.750 | 253.750 | 125 | | 0.175 | 0.153 | 0.176 | x | x | x | x | - | x | x | - |
| 1.00 | 001. | 251001. | 253001. | 125 | | 0.128 | 0.256 | 0.194 | x | x | x | x | x | x | x | x |
| 1.25 | 1.25 | 2511.25 | | 125 | | 0.100 | 0.390 | 0.2 | x | x | x | x | x | - | - | - |
| 1.50 | 01.5 | 25101.5 | 25301.5 | 125 | | 0.0823 | 0.587 | 0.21 | x | x | x | x | x | x | x | - |
| 2.00 | 002. | 251002. | 253002. | 125 | | 0.0473 | 0.405 | 0.141 | x | x | x | x | x | x | x | x |
| 2.50 | 02.5 | 25102.5 | | 125 | | 0.0360 | 0.721 | 0.132 | x | x | x | x | x | x | - | x |
| 3.00 | 003. | 251003. | 253003. | 125 | | 0.0295 | 1.19 | 0.131 | x | x | x | x | x | x | x | x |
| 3.50 | 03.5 | 25103.5 | | 125 | | 0.0240 | 1.58 | 0.1205 | x | x | x | x | x | x | - | - |
| 4.00 | 004. | 251004. | 253004. | 125 | 0.0204 | 2.45 | 0.114 | x | x | x | x | x | x | x | x | |
| 5.00 | 005. | 251005. | 253005. | 125 | 0.0158 | 4.14 | 0.11 | x | x | x | x | x | x | x | x | |
| 7.00 | 007. | 251007. | 253007. | 125 | 0.0107 | 10.4 | 0.102 | x | x | x | x | - | x | x | - | |
| 10.0 | 010. | 251010. | 253010. | 125 | 0.0072 | 25.5 | 0.1 | x | x | x | x | - | x | x | - | |
| 12.0 | 012. | 251012. | | 32 | 300A@32VDC | 0.0059 | 45.2 | 0.0878 | x | x | x | x | - | - | - | |
| 15.0 | 015. | 251015. | 253015. | 32 | 50A@32VAC & 300A@32VDC | 0.00446 | 68.8 | 0.071 | x | x | x | x | - | - | x | - |

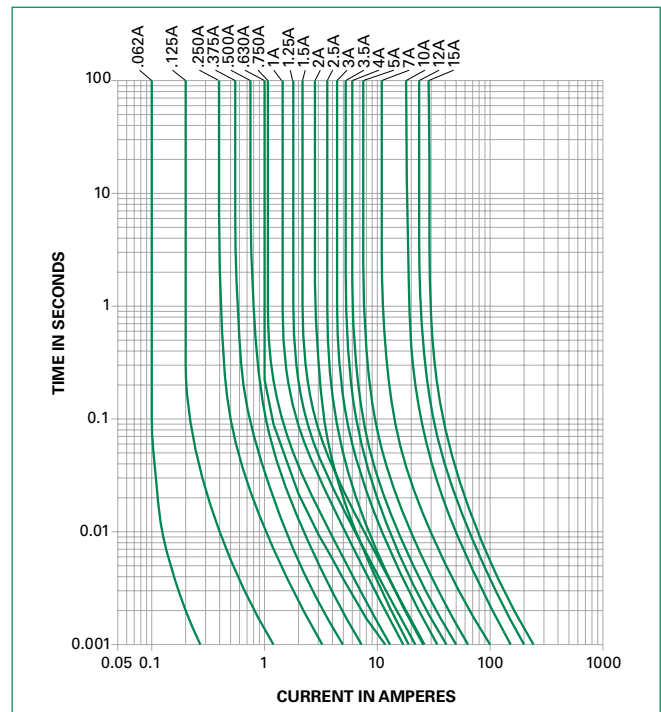
Note: Higher ampere ratings are available. Please contact Littelfuse Technical Support or your Littelfuse products representative for assistance.

Temperature Re-rating Curve



Note:
1. Re-rating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



251/253 Series

PICO® II Very Fast-Acting Fuse

Product Characteristics

| | |
|------------------------------|---|
| Materials | Encapsulated, Epoxy-coated Body 251 Series: Pure tin-coated copper wire leads 253 Series: Solder-coated copper wire leads |
| Solderability | MIL-STD-202, Method 208 |
| Lead Pull Force | MIL-STD-202, Method 211, Test Condition A (will withstand a 7lbs. axial pull test) |
| Fuses To MIL SPEC | For fuses to MIL-PRF-23419, FM10 change the series number from 251 to 253 |
| Operating Temperature | -55°C to +125°C (Consider re-rating) |

| | |
|---|--|
| Vibration | MIL-STD-202, Method 201 (10–55 Hz); Method 204, Test Condition C (55–2000 Hz at 10 G's Peak) |
| Shock | MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 msec.) |
| Insulation Resistance (After Opening): | MIL-STD-202, Method 302, Test Condition A (10,000 ohms minimum at 100 volts) |
| Moisture Resistance | MIL-STD-202, Method 106 |
| Resistance to Soldering Heat | Withstands 60 seconds above 200°C and up to 260°C, maximum |
| Flammability Rating | UL 94V-0 |

Soldering Parameters

Recommended Process Parameters:

| Wave Parameter | Lead-Free Recommendation for 251 Series only |
|--|--|
| Preheat: (Depends on Flux Activation Temperature) | (Typical Industry Recommendation) |
| Temperature Minimum: | 100°C |
| Temperature Maximum: | 150°C |
| Preheat Time: | 60-180 seconds |
| Solder Pot Temperature: | 260°C Maximum |
| Solder Dwell Time: | 2-5 seconds |

Recommended Hand Soldering Parameters:

Solder Iron Temperature: 350°C +/- 5°C
Heating Time: 5 seconds max.

Note: These devices are not recommended for IR or Convection Reflow process

Packaging

| Packaging Option | Packaging Specification | Quantity & Packaging Code |
|---------------------------------------|-------------------------|---|
| *T1: 52.4mm (2.062") Tape and Reel | EIA 296 | Please refer to available quantities above in "Part Numbering System" |
| **T3: 73mm (2.874") Tape and Reel | EIA 296 | |

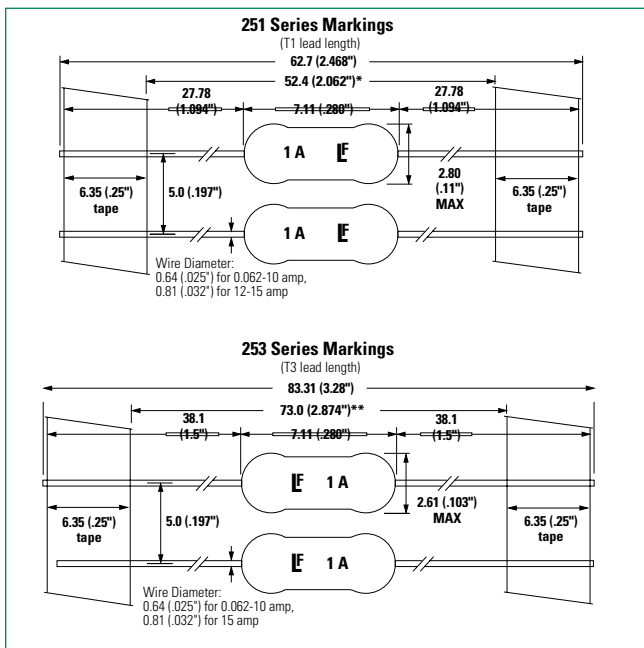
The default lead length for both ammo pack and loose pack is T1 for 251 and is T3 for 253.

Notes:

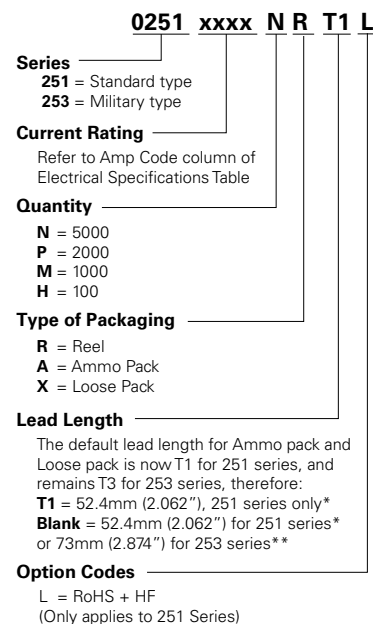
* T1 dimension is defined as the length of the component between the two tapes. The full component length is 62.7mm (2.468"). **T1 length is for 251 series only.**

** T3 dimension is defined as the length of the component between the two tapes. The full component length is 83.37mm (3.28"). **T3 length is for 253 series only.**

Dimensions



Part Numbering System



Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: www.littelfuse.com/disclaimer-electronics.